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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without prior consent of this division.

REPORT FOR THE WEEK ENDING AUGUST 4, 1934.

HAVRE:

Harvesting is mostly complete on the station. Corn is in good condition and could make a fairly good crop yet. The second crop of alfalfa hay from irrigated land was stacked, and the commercial fields of grain are being harvested. Ranges are drying rapidly. Some livestock are being moved because of lack of water.

Dr. Leighty and J. M. Stephens were here on the 30th and 31st.

Maximum temperature, 101°; minimum, 51°; precipitation 0.10 inch.

JUDITH BASIN:

The weather during the week has been favorable for threshing. Winter wheat on the rotations was threshed with yields averaging 8.8 bushels per acre in field A and 15.3 bushels per acre in field B. The grain is of excellent quality. Corn has responded wonderfully well from the rains of a week ago and will now produce considerable feed.

Visitors during the week have included Dr. Leighty, Mr. Stephens, E. C. George, Professor McKee, H. R. Summer, and D. C. Noble and son of Nobleford, Alberta.

Maximum temperature, 95°; minimum, 48°; precipitation, 0.

HUNTLEY:

The last week has been warm and dry, the temperature on one day reaching the maximum for the season so far. Corn on fallow, sorghum, and Sudan grass are the only crops that have seemingly held their own, whereas other crops have shown a marked deterioration during the week. A good rain at this time would still be of help to corn and would produce fair yields of fodder on many plantings. Field work has consisted of haying, marking plots for threshing, hoeing corn, and weighing hogs on pasture.

Dr. C. E. Leighty, J. M. Stephens, and Director Linfield were visitors during the week.

Maximum temperature, 104°; minimum, 45°; precipitation, 0.

SHERIDAN:

High temperatures prevailed over the most of the week, with consequent deterioration in the condition of late forage crops and corn. Practically all corn on fall plowing has now fired beyond any possibility of being benefited by any rains, and is being cut to save as much of the forage as possible. Sorgo and Sudan grass are wilting badly. Threshing has been completed except for a few plots not yet cured. Yields have not yet been calculated.

Maximum temperature, 102°; minimum, 51°; precipitation, 0.06 inch.

Report for the two weeks ending August 4, 1934.

DICKINSON:

No rain fell during the past week, and late crops continued to deteriorate. Corn wilted badly and will not make much feed unless rain comes soon. Most fields are still only about 2 feet high. Millet is wilting badly and is being damaged by grasshoppers. Grains seeded in June for hay and pasture have dried up without providing enough growth for either. Harvesting is nearly completed in the area. Only about half the seeded acreage is being cut for threshing. Headers and mowers are most used in harvesting.

A very light yield of early varieties of plums is being picked. The fruit is undersized because of drought, and some varieties were damaged by the red spider.

Dr. C. E. Leighty and J. M. Stephens visited the station July 27.

Maximum temperature, 104°; minimum, 42°; precipitation, ~~0.08~~ inch; July precipitation, 0.75 inch; total January to July, 6.45 inches.

MANDAN:

Agronomy: Another hot and dry week has passed. On one or two days a fairly high wind blew. Corn is badly wilted, and unless rains come within the next day or two, it will be burned up. Fallow plots were worked during the week. The second crop of alfalfa along the coulee was cut and hauled. The yield was much the same as the first crop.

Maximum temperature, 99°; minimum, 52°; precipitation, 0.

The pastures continue to go down. All vegetation is at a standstill. The cattle made good gains during July. Two steers were taken to the Agricultural College for slaughter at the end of July.

Horticulture: All horticultural plantings are suffering from the continued drought. Red spider damage also has been unusually severe. Verdol is being tried in an effort to control this pest. Several early varieties of plums were picked during the week. Tecumseh, Minn. 60, and Minn. 168 were among the best. Opata gave a light yield. Horticultural fields have been cultivated and are now being hoed for the third time this season.

Bagging of silks in the sweetcorn breeding project was started August 1. The various strains seem to show up more uniformly than ever this season. Inherent weaknesses such as blighting of tassels, burning of leaves, smut susceptibility, etc. in entire ear progenies are brought out in sharp contrast to those that have none of these or but very little. All plants however, are showing need of moisture, and unless rain falls soon only poor results can be expected from the project.

Tomatoes are still holding their own. There is a good set of fruit but it is ripening very slowly. Cauliflower and early cabbage are still yielding well; summersquash has set a fair crop with some fruit ready for the table.

BELLE FOURCHE: Report for the two weeks ending August 4, 1934.

Crops were afforded temporary relief from the drought and high temperatures by showers on July 24, 25, and 26, but hot weather and warm winds during the past week have caused corn to resume burning. Potatoes and sorgo are showing signs of suffering from lack of moisture, and sorgo is heading at a height of about 2 feet. The hottest weather of the year occurred August 3, when a temperature of 105° was recorded, and a strong hot wind caused the temperature to rise to 95° at midnight.

The mean temperature for July was 76°, which is equal to the highest on record.

Maximum temperature, 105°; minimum, 53°; precipitation, 1.02 inches.

ARCHER:

The average maximum temperature for the week was 92°. No precipitation occurred, and the beneficial effects of the precipitation of the previous week have become exhaused. All crops except sunflowers on fallow land are at a standstill or are deteriorating rather rapidly. The prairie grasses are very dry, and the milk cows, which are receiving no supplementary feeds, are dropping in production. It is planned to change them to Sudan grass pasture August 7.

Work at the station consisted of harvesting. All the varietal and rotation small grain plots have been harvested, and the remaining ripe plots in the date-of-seeding experiments will be harvested today. The varieties of barley and spring wheats were so short they were cut with the mowing machine and the grain put in beet pulp sacks and stored in the granary to await threshing.

The Laramie County Agricultural Council met at the station August 2. Director W. L. Quayle attended the meeting. E. A. Lungren of Ft. Collins visited the station July 30.

Maximum temperature, 96°; minimum, 48°; precipitation, 0.

AKRON:

July passed with but 0.31 inch of precipitation, the lowest in the past 27 years. The second lowest July rainfall was 1.08 inches in 1925. In 1899 the LeRoy weather station on the Plains, about 35 miles northeast of this station, reported only 0.36 inch in July. The week has been hot, with three maximum temperatures above 100° and the others near the 100° mark. The corn and the millet including the proso are suffering very markedly. Beans and the sorgos are holding quite well. Work has been nursery threshing and the harvesting of weeds and grain from the rotation plots in preparation for the fall cultural preparations. The recently set-out shrubs and evergreens about the building plot were irrigated during the week.

Maximum temperature, 105°; minimum, 57°; precipitation, 0.02 inch.

NORTH PLATTE:

The drought situation continues unrelieved. July set new records for high temperatures, persistancy of high temperatures, and evaporation. The mean July temperature was 85° on the Substation table and 83° at the North Platte Weather Bureau. Previous records were 79° and 81°, respectively. On the Substation table there were 20 days with maximum temperatures of 100° or more. Evaporation was 13.303 inches. Precipitation was 0.79 inch at North Platte and 1.03 inches on the Substation table. Each of the seven months of the current year have been below normal in precipitation. The total for the year to date at North Platte is 4.597 inches in comparison with a normal of 12.58 inches for the 60 years of record.

August is taking off with a good start to trail the July records. Two of the first three days have had temperatures above 100°, and yesterday's evaporation was 5.93 inches.

Not much livestock has as yet been moved out of this immediate section, but the short feed supply in sight indicates that a considerable reduction will be necessary .

COLBY:

The dry, hot weather continues. The maximum temperatures have been above 100° five days this week. The week has been fairly windy, with some soil blowing Tuesday evening and yesterday.

About half of the corn on the plots has dried to the ground or been eaten off by rabbits. The grasshoppers have largely disappeared. The continuously cropped sorghums are still at a standstill or deteriorating. Those on fallow are making fair growth. The milo on green manure ground shows signs of running out of moisture.

Maximum temperature, 105°; minimum, 58°; precipitation, 0.

July precipitation 0.41 inch. Precipitation January - July 4.62 inches. The only year in a 47-year record having a lower precipitation for this period was 1910. July had 20 days with maximum temperatures over 100°.

HAYS: Dry weather continues with maximum temperatures ranging up to 113°. Little change has taken place since the last report. Kafir planted with furrow openers on plowed ground continues to suffer markedly more than kafir planted with lister where the ground was blank listed and the old furrows nosed out at seeding time. Practically no growth is being made on plowed ground and additional plants are perishing daily from heat and drought, while that planted with a lister is holding on remarkably well. It is wilting every day, but most of it is making some growth. One explanation I have to suggest for this difference in behavior is that lister planted kafir plants had a deeper start in the soil from the beginning, and the dirt down into the furrows around the plants by cultivation has added to the depth of covering over the roots, protecting them more from the drying wind and heat of the sun. On plowed ground the furrow slice has been dried out to such depth, and so completely, the plants failed to get established in the subsurface soil where most of the available moisture lies. Kafir surface planted is poorly rooted and is easily blown over first one direction and then another as the wind changes, whereas the kafir planted in furrows which have been filled by cultivation since germination stands erect and is not affected by the wind. Kafir planted with a lister but which has not been cultivated since germination is suffering in the same manner as kafir planted on plowed ground. Kafir planted on the borders is more vigorous and is suffering less than that on the plots. The date of planting is the same. The borders are continuously cropped to kafir. The grain is harvested by heading, and the stalks are left on the ground and worked into the soil with a disk or stalk cutter in the spring. The ground is early blank listed, curled in and nosed out at seeding time.

All corn is in a serious condition. Most of it is still green but very badly wilted all day and every day; and the growth, which has been slow, seems to have stopped. Sorgo (sumac) seeded in rows in rotation 58 has made little growth above 4 inches, and some of it is dying. The same crop sown with a drill for hay crop is only about 4 inches high and is also dying.

Two-and three-year-old alfalfa is being damaged by rodents, presumably mice, digging away the soil and eating off plants just below the crowns.

Maximum temperature, 113°; minimum, 63°; precipitation, 0.04 inch.

GARDEN CITY:

The weather continued hot and dry during the week. With the exception of two nights, the minimum temperatures have been above 70°. The maximum temperatures have been above 100° the entire week. Preparation of seed bed for winter wheat was begun this week. This operation has been delayed as long as possible in hopes that some rain might make the preparation easier. The plowing, listing etc., are leaving the plots in a terrible condition in view of the lack of moisture. This condition will be taken care of immediately, so as to put the plots in the best condition to receive and retain moisture when or if it should happen along this way.

A. L. Hallsted was a station visitor this week end.

Maximum temperature, 109°; minimum, 64°; precipitation, 0.

TUCUMCARI:

Little climatic change occurred the past week, the drought continuing, and the hot sun beating down upon parched ranges and baked fields. Station fields planted the middle of July show a great range of survival -- in some cases good stands were obtained and seedlings are making a wonderful struggle for existence, but little growth; in others, seedlings are dying rapidly; and in still other cases only partial stands emerged, with most of the seedlings now dead.

July, with a mean temperature of 84°, was the hottest month on record, exceeding the long-time average July mean by 6°. Evaporation of 14.1 inches was the second highest ever recorded here. Precipitation of 4.39 inches since the close of last August is by far the lowest recorded over a like period. July precipitation of 1.34 inches fell in four showers and was the highest recorded for any month since August, 1933.

Maximum temperature, 106°; minimum, 63°; precipitation, 0.

DALHART:

The dry weather continues. The sorghum variety plots can now be considered total failures, although there is still a possibility that the last planting could make some grain if rain came soon. The rotation sorghum plots are showing distinct marginal effect. Milo heads continue to emerge on the better preparations. Tepary beans have died. Cowpeas continue alive and display more vigor than soybeans. Short trips in three directions from the station during the week show many farms without any crop at all. A few fields or small areas in parts of fields could still make feed without grain. Apparently not enough feed could be produced by the row crops to feed the small dairy cow herds which the farmers have retained. Mr. H. H. Finnell has been a station visitor several times during the week. He will have charge of a Wind Soil Erosion Project which the Department of Interior will start in the immediate future near Dalhart, Tex.

Maximum temperature, 105°; minimum, 62°; precipitation, 0.11 inch. July 31 gave a mean temperature of 90.5°, which is the highest mean ever recorded at this station.

BIG SPRING:

Weather conditions remained unchanged during the week. Temperatures as a whole have not been so high, although the maximum reached 103° on one or two occasions.

Station crops are making very little growth, although they continue to remain green. The May 15 date-of-planting of grain sorghums are heading, but it is doubtful if they will mature any grain under present conditions. Sudan grass in the rotations and the first two dates was cut during the week. It was burning although only partially headed and very short. Station work has consisted mainly of cultivating and hoeing weeds, picking grapes and peaches, and bagging sorghum heads.

Several thousand head of drought relief cattle have been purchased in this area during the past month. Eighty to 100 head of these cattle are butchered here daily and put through the local canning plant which was recently established. This plant is running 24 hours a day, and is turning out 10,000 cans of meat daily. This product will be distributed through the relief office.

Maximum temperature 103°; minimum, 68°; precipitation, 0.

LAWTON:

The heated period of drought existing since the middle of June continues unabated. Stunted cotton plants are still blooming at the top, and shedding is nearly 100 per cent. Plant wilting is severe during the day time, and the general outlook for even a fair crop is very poor. Each August day under present conditions imposes a serious handicap to even meager production in this territory. Early maturing varieties, such as Half and Half, Oklahoma 44, and Acala, planted April 15 and May 1 are showing a good many bolls that are "cracked open" by hot, dry weather. Bolls on all varieties are small and range from 0 to 4 bolls per plant.

Farmers are, in most instances without grass and water, and cattle herds are being heavily and rapidly reduced by Government purchase. Production of feed of any kind has been extremely small.

The average maximum temperature for the past 47 days was 102°.

July precipitation, 0.08 inch; July evaporation, 14.409 inches.

WOODWARD:

There is a tradition that people of this section have great faith in that "it always rains just before it is too late". Drought destroys their hope of wealth more often than not, but it is rarely so long continued that they are deprived of sufficient stock feed to allow them to subsist. But many of those who have clung tenaciously to this faith are becoming sceptical. The sorghum crops are now beginning to head, and at this stage require twice the moisture they did before, to develop normally. If the drought continues for even 10 days longer there will be no hope of a grain crop. The stand of sorghums, however, is good on the majority of farms, and if rains occur even as late as September 1, and frost comes late in the fall, there will be some feed made.

One noticeable thing in overgrazed sandy pastures is the fine free growth being made by the prairie sage. Everything that cattle would eat is gone, so sage has little competition. It also feeds more deeply than other plants.

American elms are suffering greatly with red spider. The spiders are so minute they are not noticed, but the dust catching on their fine webs give the leaves a dirty appearance. The elders

seem more adversely affected by drought than perhaps any other shrub, though they ordinarily stand up under short droughts very well. The Chinese elm, and especially U. parvifolia are standing drought well. A number of hackberries are practically defoliated, and leaves on many green ash are withered and dead though still clinging to the tree. Aniscanthus and parosela, both desert shrubs, apparently are doing better than usual. Tamarix hispida, though in a dry location, has been in bloom several weeks.

Grapes are drying ripe, and are not so sweet as usual, some varieties shriveling much worse than others. Midseason peaches are very small and dry.

By far the worst day of the season was July 31 when temperature reached 113°, evaporation amounted to .735 inch, and wind averaged 14.1 miles for 24 hours.

Maximum temperature, 113°; minimum, 67°; precipitation, 0.

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N O T E:

Mr. W. M. Mooney, Postmaster U. S. Post Office, writes under date of August 2, 1934, as follows:

"This office is experiencing considerable difficulty in the distribution for proper delivery of mail addressed to different Bureaus of the Government on account of the insufficient and incorrect manner in which it is addressed. In some instances as many as five Bureaus connected with as many different Executive Departments as well as independent Boards and Commissions, are located in the same Government Building, and when mail is received intended for delivery to any of them and directed simply to the room number of the building in which they are located, without any indication in the superscription of the Bureau with which the addressee is connected, it is practically impossible to know the proper disposition to make of it. As a consequence the mail has been misdelivered and delayed in eventual receipt by the addressee, necessitating frequent rehandling and resulting in many complaints being received concerning such delays. It is essential that the name of the Bureau with which the addressee is connected be shown as a part of the address. For example, mail should NOT be directed to an individual by name or to the Commissioner, Room 2000, Post Office Department, but it should be addressed, John Doe, Bureau of Reclamation, Department of the Interior, or Commissioner, Bureau of Reclamation, Department of the Interior, Washington, D. C.

"In other instances where branches of the Government are located in private buildings such as the Barr bldg., Lemon bldg, etc., mail received here directed to the addressee bears simply the building name or street number, without any indication in the address of the name of the Bureau in which the addressee is employed. In such cases it is the desire of this office that the street location and the name of the building be eliminated as a part of the address, and that the mail be directed simply to the addressee in care of the Bureau with which connected. For example, mail should NOT be addressed to John Doe, Room 320 Winder Bldg., or John Doe, 17th & F Sts., N. W., etc., but it should be addressed to John Doe, Children's Bureau, U. S. Department of Labor Washington, D. C. The receipt of the mail directed to the street address or building name frequently results in its being improperly distributed to the carrier station in the territory of which the street address or building is located, and necessitates that it be returned to the main office for delivery through the Official Section here, thus delaying its receipt by the Bureau or individual for whom intended.

"I shall appreciate it if you will see that notices are published for the information of all employees in your Department as to the correct manner in which mail should be addressed to assist in its proper handling and prompt delivery, and that action is taken to notify your correspondents, as far as possible, as to the correct manner in which to address the mail. It is believed that it would assist materially in this respect if your stationery would simply show the name of the Government Department, or Board, such as War Department, Interior Department, Federal Emergency Relief Administration, etc., without any reference being made on the stationery to the private building or street address where branches of your service may be located."

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REPORT FOR THE WEEK ENDING AUGUST 11, 1934.

JUDITH BASIN:

Weather conditions remained ideal for harvesting and threshing during the week, and this job was rushed to completion. Spring grains were below average in yield and from most plots was of very poor quality. Corn is still making a good growth and promises to produce a good yield of fodder. With moisture during the next week or ten days, it would produce considerable grain, which is very unusual at this station.

Harvesting operations in the community are going rapidly forward with most farmers finishing within a few days. Winter wheat yields are ranging from 6 to 20 bushels and spring wheat from about 6 bushels down.

Maximum temperature 98°; minimum, 48°; precipitation, 0.01 inch.

HUNTLEY:

The last week was moderately cool with overcast skies and threatened showers on some days. Crops appear to be little changed in condition from that of a week ago. Alfalfa seed is beginning to ripen, most of the pods having changed color from green to tan. Much of the corn in the seed block is also approaching maturity and will soon be ready to pick. Small grains from the rotation experiments were threshed during the week. The yields obtained were all much below the average, but in a few cases were higher than expected. The quality of the grain was generally good, the bushel weights usually equalling or exceeding the standard.

Maximum temperature 97°; minimum, 47°; precipitation, 0.

SHERIDAN:

Temperatures during the last half of the week were somewhat cooler than the first half. Several cloudy days with traces of moisture have helped the corn to keep on. About half of the plots have been cut to date. It is remarkable how the crop continues to keep green and hold up without any moisture. Large weeds have been removed from the alfalfa seeding in Field O and also from the shelter belts. Although there seems to be little moisture in the top soil, the Russian thistles are making a rapid growth.

Lambs were weighed and some sold. It is a problem to keep them in feed. Considering the conditions the gains have been good.

Dr. C. E. Leighty and J. M. Stephens were at the station on Sunday and Monday.

Maximum temperature, 97°; minimum, 48°; precipitation, 0.08 inch.

DICKINSON:

Two light showers with moderate temperatures part of the week were more favorable for crops. The rain of 0.12 inch at the station on the 7th was much heavier just to the east and was accompanied by heavy hail over a small area. Corn and millet still continued to wilt however, and late feed crops will produce very little unless heavy rains come soon.

Threshing of crops on the rotations was completed. Wheat yields averaged 3.8 bushels; fallow and green manure plots averaged 7 bushels with the high yield of 13.5 bushels per acre. All plots on fall plowing were complete failures. Oats averaged 11.5 bushels with fallow plots averaging 25.9 and a maximum yield of 36.6 bushels on rotation 14.

Barley averaged 7.2 bushels. Two plots on fallow averaged 16 bushels per acre. Grass varieties were threshed. Yields of crested wheatgrass were very light, and no significant yields of brome and slender wheatgrass were harvested. Threshing of the cereal varieties and nursery were nearly completed.

Maximum temperature, 98°; minimum, 43°; precipitation, 0.46 inch.

MANDAN:

Agronomy: The past week has been hot and dry. Corn deteriorated further, and some of the leaves are now burned. Threshing was completed during the week. The heavy growth of Russian thistles made threshing slow and difficult. Wheat will run from zero to about 10 bushels per acre on the best fallow. Oats will run from zero to about 8 bushels per acre on the best fallow. Barley was a failure. Wheat stood the drought better than either oats or barley. Crested wheatgrass was threshed, and the yield was very light. There will not be enough seed for station needs.

Maximum temperature 97°; minimum, 50°; precipitation, T.

Cooperative Grazing Experiment: Pastures dried up more during the week. The smaller pastures are getting near the exhaustion point. The larger pastures are still furnishing plenty of feed.

The following are the gains of the steers for July and for the 75-day period:

Pasture (acres)	Number of steers.	Gain per head (lbs.) July	75 days
100	10	72.0	233.0
70	10	97.0	243.5
50	10	87.5	a/
30	10	75.0	a/
70 (Rotation)	14	39.6	152.1
28 (Brome)	5	95.0	191.0
7 (Crested wheat)	4	77.5	b/ 170.0

a/ These steers were not started on their pasture until July 1.
The 50-acre steers ate 1.5 pounds of cottonseed cake daily during the month.

b/ For 65 days, as they were moved to the reserve pasture at the end of 20 days in July.

Horticulture: The growth of vegetables is at present almost at a standstill. Tomatoes ripen very slowly, although the vines are still green. Staked tomatoes in the acre garden have produced 94 pounds of ripe fruit to date from 194 plants. There was considerable Blossom End rot, but the fruit was of good size. Late planted sweetcorn is still holding its own, but there is much damage to pollen from the high temperatures. Early cabbage is still yielding well, heads ranging from 4½ to 9 pounds in weight and very firm. So far the yield of potatoes in the garden is poor, many in hills but less than a hen's egg in size.

Semi-formal beds on the grounds are now looking their best so far this season, but most of the perennial flowers and shrubs have ceased to bloom.

Arboriculture: Hoeing of nursery fields and test tree plantings has been in progress during the week. Seedling stands of green ash, caragana, and Russian olive have suffered a heavy mortality during the past month. Few seedlings of the various species of trees grown here

have made any appreciable growth during the summer. Without rain shortly there will be very little stock, if any, large enough for shipment next spring.

Chokecherry seed is being collected and cleaned under Erosion Control Nursery funds. Approximately 1,400 pounds have been collected and partly cleaned to date.

Reports from field men collecting data from established shelter belts show that many of the plantings have suffered heavy mortality. Northwest poplar shows very heavy killing to complete loss between the fifth and tenth years. Boxelder has killed to the ground in the majority of plantings; most of them however, show life at the base. Other species show varying degrees of injury and losses. Some plantings have been killed to the ground by hail; others have been so badly defoliated by grasshoppers and other insects, and girdled by rabbits, that serious injury has resulted. Many farms are found abandoned and the trees open to stock. Farmers, in general, are very much discouraged and are making no attempt to care for the trees. Very striking contrast is being observed in the condition of trees which are clean cultivated and those which are neglected.

J. Allen Clark, Cereal Crops and Diseases, and L. R. Waldron, Plant Breeding, North Dakota Agricultural College, visited the station during the week.

BELLE FOURCHE:

Hot weather prevailed during the first half of the week, but the last three days have been moderate in temperature. A few light thunder showers occurred, but no precipitation of any value was received. Corn and sorgo have made very little growth, but they are withstanding the drought remarkably well otherwise.

All grain crops were threshed during the week. Owing to failure in securing stands, all crops were practically a total failure on deep spring plowing, but fair yields were obtained on other cultural treatments, the advantage of summer fallow being very pronounced. A summary of the yields follows:

Summary of yields (bushels per acre)

	Maximum yield	Minimum yield (excluding spring plowing)	Average yield (all plots)
Winter wheat	15.7	4.7	9.5
Winter rye	5.0	[illegible].9	3.5
Spring wheat	24.3	6.0	12.4
Oats	48.1	11.5	23.0
Barley	40.0	6.3	14.5
Flax	8.2	5.0	6.8

Dr. C. E. Leighty and J. M. Stephens visited the station early in the week.

Maximum temperature, 98°; minimum, 55°; precipitation, 0.19 inch.

ARCHER:

During the past week the weather was cooler with precipitation occurring every day. These conditions caused the corn, sunflowers, millet, beans, potatoes, and Sudan grass to brighten up. The prairies have improved and fallow land is in good condition for seeding fall grains, but it is a little early for this operation.

Threshing, with the exception of millets and some of the late dates-of-seeding, was finished August 10. Native grass seed is being gathered today. The dairy cows were turned into the Sudan grass pasture August 7, and a slight increase in milk production occurred. Notwithstanding the hot, dry weather and the dry conditions of the pasture during the time the cows were on native pasture, their average weight showed an increase but the milk production was decreasing.

Dr. C. E. Leighty and J. M. Stephens visited the station August 9. On the same date Arling Gardner, State Commissioner of Agriculture, also visited the station to discuss dairy work.

Maximum temperature, 98°; minimum, 55°; precipitation, 1.11 inches.

AKRON:

Showers over this general region the past week have brought some relief from the excessive heat. Rains have been quite generally small. At the station there were four separate showers. This rainfall has made no visible effect towards reviving crops. Corn on the station is already gone on most types of soil preparations and will be harvested for whatever forage it will produce.

Nursery threshing and harvesting thistle hay has held attention during the week.

Messrs, Hildreth, Emerson, and Babb from the Cheyenne Horticultural Station visited here Friday. Messrs Leighty and Stephens are here today(Saturday).

Maximum temperature, 103°; minimum, 59°; precipitation, 0.60 inch.

NORTH PLATTE:

After several days or rather nights of threatening, the long hoped for rain in amount to be of some benefit arrived on the 10th and 11th. Just previous to this, there was another heat wave with several days of maximum temperature above 100°.

Corn on plots with sufficient height to reach the binder reel were cut with a grain binder August 6-7. These were mostly plots of corn following corn or on early fall plowing after small grain. On late fall plowing, spring plowing, and spring disking after small grain most of the stalks had fallen down flat, and no attempt was made to recover fodder yields. The corn and sorghum after fallow are still green, and the corn has some small ears. This was left for later harvesting.

Since the rain inquiries are being received regarding the seeding of feed crops. With only seven weeks before the normal date of killing frost, sorghums do not promise much. Rye for pasture will furnish much feed if more rain comes. Oats on account of higher frost resistance will perhaps produce more hay than will sorghum. While proso might be the best prospect, there is no seed available on the local market.

Maximum temperature, 106°; minimum, 60°; precipitation 1.33 inches.

COLBY:

The weather continues hot. Rains have threatened nearly every day. The temperature has gone to 100° or over every day this month except on the 2d. Nearly all the corn that the rabbits did not eat off has dried down to the ground. The stalks are still somewhat green and standing on the fallow plot and the listed plots F and G. The fallow plots of sorghums are still looking good, but the continuously cropped plots appear to have run out of moisture and are turning whitish.

Maximum temperature, 107°; minimum, 67°; precipitation, 0.29 inch.

HAYS:

Hot dry weather continues. Scattering clouds late yesterday looked favorable for rain but passed away leaving only a trace for Hays. There is little to report regarding crop conditions except a continuation of that which has been reported during the past week,- crops still suffering, and the chances for feed being greatly reduced.

In many cases pastures have been eaten bare, and it is a common sight to see cattle feeding on Russian thistles and other scattered weeds in wheat stubble fields where they are in some cases eating the straw or stubble left by the harvester. It is also a common sight to see cattle being herded along the roadside on such weeds as can be found. Most cattle being taken care of in this manner are in good condition; although we are informed that in certain localities the cattle are very poor and a few being purchased by the government are shot and buried, because they are not able to stand transportation. There are being sold to the government a good many cattle in this locality, not because they are in such poor condition at the present time, but because of the outlook for late fall and winter feed. Unless rain comes soon to make feed out of the sorghums, wheat pasture is about the only thing that can be looked forward to for winter feed, as practically all the dry feed will be consumed by that time, except in the case of a few of the more fortunate farmers. Unless considerable rain is received during the remainder of this month and next month there will be little encouragement for wheat pasture.

The farmers are generally availing themselves of all opportunities to gather what little feed can be secured. Many stacks of Russian thisles can be seen, a few are filling their silos with thistles, and in some places the wheat stubble left by the combine is being recut and stacked or baled.

Maximum temperatures for the week ranged from 106° to 111° with an average of 109°. Minimum temperatures ranged from 74° to 81° with an average of 77°. There has been no rain and the evaporation record shows a loss of .470 to .700 inch per day. The total loss by evaporation for the week is 4.398 inches. Precipitation, 0; evaporation 4.398 inches.

GARDEN CITY:

Maximum temperature was above 103° every day. There have been no indications of rain over this section.

Field work consisted of plowing and listing for winter wheat and cultivating row crops where there were any. This is the first cultivation of anything except field corn. The cultivation was only for the purpose of pulling dirt up around the plants to bolster them against lodging. They were lodging pretty badly in places, owing to lack of root support. There are a few plots on the project which are looking pretty good in spite of the rigid conditions and on these good stands

prevail. Most of the plots, however, have very thin and scattered stands.

The feed situation is so critical in this section that farmers are mowing their wheat stubble for hay. Fields which were of no value for grain and were not harvested with a combine are now being mowed and stacked for feed. Many fields where thistles got a fair start are being cut for hay. Cattle are pasturing wheat stubble and fields where thistles were growing. Prospect for a feed crop is very slim. Fields in sections where there was sufficient moisture to get the crop up to a good stand show severe drought damage now. The crops in many cases are drying, some only a few inches in height.

Maximum temperature 108°; minimum, 72°; precipitation, 0.

BIG SPRING:

The past week has been a continuation of the conditions that have prevailed for the past several weeks. Cotton is opening prematurely throughout the county; the plants have reached a height of 10-12 inches, and each stalk is carrying 2-4 bolls most of which are very much undersized.

The sorghums in the May 15 date of planting are making a feeble attempt at heading. The standard feterita in this planting has matured a light grain crop and was harvested during the week. Wheatland milo has also headed fairly well, but the others will probably not make it without rain soon. Station work has consisted of cultivating and hoeing weeds, harvesting some cowpea and soy bean varieties, and picking the April 15 dates of cotton.

Maximum temperatures 101°; minimum, 71°; precipitation, 0.

DALHART:

The excessive temperatures continue unabated. It is truly remarkable how any vegetation stays alive at all. Some of the older trees continue to die, but it is remarkable how well the larger trees have held out. The Chinese elm, the 'parvifolia' elm, honey locust, and Chinese jujube all appear normal in appearance except where they are unduly crowded. The green ash appears best able to 'rough it' of any any of the trees tested. The box elder and Russian olive are severely injured where crowded. The American elm stands the hot weather and drought remarkably well but tends to kill partly back slowly but surely. It also is severely punished by borers and more especially by the red spider, so that unless a tree is well watered it presents a decidedly unpleasing appearance. The Chinese arborvitae and Western Yellow pine present the best appearance of the evergreens after two years of intensive drought. The Western Yellow pines in the older-, thick planting are gradually dying out. Where the space is adequate for the individual trees they are in good condition. The Jack pines have least ability to stand the drought of any of the pines tested. The Desert willow has been in bloom rather profusely for two months. Of the shrubs the Colutea and Chaste tree are remarkable for their drought resistance. The grape vines are in much better shape than a year ago, in spite of the fact that many varieties came from the ground because of drought injury last year. The birds pick the few grapes as fast as they turn color.

Maximum temperature, 103°; minimum, 67°; precipitation, 0.

LAWTON:

The persistence of abnormally high temperatures and continued absence of rain resulted in another week of intensified drought. Cotton continued to deteriorate with some top blooming on the stunted, wilted plants. Premature opening on the early planted, early to medium maturing varieties continues. The average maximum temperature for the week was 102.7° and the mean was 89.4° - nearly 7½° above normal. The wind velocity was quite low and the daily evaporation averaged slightly less than half an inch.

Dr. F. A. Fenton, Head of the Entomology Department A. & M. College, Stillwater and E. F. Chilcott, Woodward, Okla., were recent station visitors.

WOODWARD:

There has been no relief from the monotony of the drought. All plants have withered a little more. Cotton, which has made so brave a fight, seemed to give up suddenly and conclusively. Rowed sorghums about the country which are large enough to furnish some feed are being cut with the hope that they will branch heavily from stubble in case of late rains. Hope, however, of making much feed of any kind is about gone. Many people are putting up Russian thistles.

There may be little excuse for mentioning the good behavior of a grass which has been tried here only one season. But at a time when everyone is anxiously searching for a grass for the dry lands it seems well to bring this to the attention of other experimentors. This is Cenchrus biflorus received from Forage Investigations this spring under number 95536. It is very similar to the grassbur so common in sandy soil over the southwest except the bur is not spiny. It is a prolific seed bearer. Whether it propagates readily from seed and whether it is winter hardy is not known.

Midseason grapes are all ripening at about the same time. They run from fair to poor in quality. There is a great demand for fruit at low prices. Tomatoes, however, which usually sell at around $1 per bushel are now readily bringing $5.

Messrs. R. A. McGinty, Head of the Horticulture and Forestry Department, W. H. McPheters of Agricultural Engineering Department, H. J. Harper of the Agronomy Department, and Fred Merrifield, District Extension Agent all from the Oklahoma A. & M. College, Stillwater, were station visitors during the week.

Maximum temperature 106°; minimum, 74° precipitation, 0.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

AUG 18 1934

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prior consent of this Division.

REPORT FOR THE WEEK ENDING AUGUST 18, 1934.

HAVRE:

The week was warm until the night of the 17th when 0.38 inch of precipitation fell and the temperature dropped. Threshing on the station is mostly completed. Yields were lower than was anticipated. Because of extreme hail damage, the data will have little value. Corn yields will probably be more dependable. There will probably be some grain on the corn. Yields of grain in this locality are running about 20 bushels on the best tillage methods. Very little wheat is testing No. 1. Headers are being used a great deal this year in order to save straw. Ranges are drying. Winter range will likely be very light. Cattle shipments have started. Because of the mature grass, there is some good grass beef from the mountain section.

Maximum temperature, 95°; minimum, 48°; precipitation, 0.38 inch.

HUNTLEY:

The drought continued throughout the last week, but because of clouds and smoke from forest fires there has been some relief from the burning effects of the sun. Corn on the rotation plots was harvested for fodder, as there appeared to be no possibility that the few ears which had formed would mature grain. Many of the ears were little more than cobs due to poor pollination. Alfalfa seed plots were also cut. The seed crop appears to be somewhat lighter than last year but the quality is higher. Sorgo and Sudan grass look dry, but are not yet in a serious condition. A few plants are heading.

Fall plowing and the preparation of seed beds for winter wheat and rye is in progress.

Maximum temperature, 101°; minimum, 46°; precipitation, none.

SHERIDAN:

Weather conditions here remain about the same, hot and dry with only a trace of moisture during the week. All the rotation threshing was completed and also the flax varieties. Yields were very poor, hardly worth threshing. One variety of Proso millet was cut. There remains only four or five plots of corn to be cut in the rotations.

Twelve hogs were sold after final weights were taken on the three lots on test. Another lot will be ready to ship the middle of the coming week.

Maximum temperature, 100°; minimum, 55°; precipitation, trace.

MANDAN:

Agronomy - Another hot and dry week has passed with further injury to feed crops.

The corn on fall plowing and a few plots on spring plowing was cut during the week. Some of the plots were badly burned. The corn in the silage test was also cut and weighed. It will average scarcely two tons per acre green weight.

Sudan grass and corn planted late for feed were cut, but the yield will be very little. Grasshoppers were doing a good deal of damage to both crops.

Maximum temperature 103°; minimum, 54°; precipitation, 0.03 inch.

Cooperative Grazing Experiment - The steers on the 30-acre pasture were still holding their own this week, but will soon have to be moved to the reserve pasture.

Arboriculture - Hoeing has been completed in nursery fields and tree plantings. Work has commenced on removing dead wood from the various tree plantings. Considerable difficulty is experienced in this matter, as the majority of trees have already lost their leaves and it is hard to distinguish without close examination between dead and live wood. It appears very evident that much of the new growth made this spring has died during the summer. Stands of seedlings in nursery fields are diminishing daily. Water is being hauled by truck to irrigate the second-year caragana seedlings in an attempt to obtain sufficient growth for shipment next spring.

Horticulture - Tomatoes in the breeding plot are ripening nicely, and considerable seed should be obtained even in a year like this. Three selections show up better than the rest and will be concentrated on. Photographs of those most promising were taken during the week.

Sweetcorn, late planted, is still holding its own, but it is doubtful if there will be any yield. Corn-ear worms are very bad this season. Every ear inspected shows infection of this pest.

Cabbage, turnips, tomatoes, cucumbers, and potatoes are the only vegetables yielding anything at the present time. Potatoes are very variable, those that started to grow before the rains in June are of good size, but those later emerged are still green, very poor, and almost worthless.

The grounds were irrigated again during the week, and the lawns are again taking on a green appearance.

Several varieties of plums were picked during the week. Some fair yields were obtained, but the fruit was not up to standard as regards size and quality. Rain is badly needed if much more fruit is to be harvested. Florence crabapples are bearing heavy crops and are now ready to pick.

The hoeing of weeds has been completed, perhaps for the summer. Starting next week, dead wood will be removed from trees, and dead trees pulled out.

D. S. Olson, in charge, Forest Plantings, Haugen, Mont., was a visitor during the week.

ARCHER:

During the past week the weather was warm and at times threatening with local showers. Some of these showers reached considerable proportions, but the station received only 0.05 inch of precipitation. These conditions permitted the corn and sunflowers to hold their own. The millet has deteriorated, but the beans and potatoes made some growth. Crop conditions in Laramie County are very spotted owing to the local nature of the precipitation.

Work at the station consisted of gathering grass seed, preparing soil and seed for fall seedings, seeding winter rye for dairy pasture, and repairing silage machinery. Most of the trees were cultivated, and some hoeing was done in the experimental field.

Maximum temperature, 91°; minimum, 55°; precipitation, 0.05 inch.

AKRON:

There has been serious interference with important field work by rainfall this past week for the first time this season. On the 13th the early fall plowing of the rotation plots was started That evening there was a hard, dashing rain of 1.98 inches. There was heavy run-off

from all sloping land. In plowing sloping stubble plots after this rain it was found that the moisture penetration had been only 3 to 4 inches. Plowing was again interrupted by a rain of 0.83 inch on the evening of the 16th. There was some run-off. It is felt that this last rain penetrated well into the already plowed plots, which were mainly the ones that took so little of the first rain. This last rain should make the fall plowed plots nearly as uniform in stored moisture from these rains as if they had all been plowed before any of the rainfall. These rains also interferred with removing the burned and dead corn from rotation plots and from projects. These rains should help sorgo and the hay millets. They will also place soil in good condition for seeding winter wheat and rye. The nursery threshing was completed.

Maximum temperature, 103°; minimum, 60°; precipitation, 2.96 inches.

NORTH PLATTE:

The week has been one of the best of the summer to date. Maximum temperatures have run in the nineties but no 100° marks were reached. Rain on two days brought the total for the month, at the station table gauge, to 2.57 inches. This is slightly above the August normal, and makes the first month this year in which the normal has been reached.

The chief station activity has been silo filling. Irrigated corn, from which ensilage yields of 14 to 18 tons per acre is usually secured, this year is making less than half of that yield. The present prospect for higher yields of Atlas sorgo, which will not be ready to cut for another month, is very much better.

Pastures are making some recovery, and the fourth cutting of alfalfa is making unusual growth. Rye for pasture will be seeded immediately on the fields cleared of ensilage corn.

C. E. Leighty, J. M. Stephens, and W. W. Burr were station visitors on the 13th and 14th.

Maximum temperature, 98°; minimum, 60°; precipitation, 1.13 inches.

COLBY:

This week has been rainy and cooler. Over an inch of rain fell in three days. The temperature was above 100° on only one day, but has been in the nineties or higher every day but two. The drought has been relieved some but not broken.

The August tillage for wheat was done on the 15th. The ground was moist to a depth of about 4 inches. The ground turned over mostly dry but fairly mellow. The listed plots of sorghum were thrown in the 17th. There were very few weeds, and the plants were none too big for throwing in. The plants ranged from 5 to 20 inches in height. They were revived considerably by the rains.

C. E. Leighty, E. F. Chilcott, and A. L. Hallsted visited the station the 17th.

Maximum temperature, 105°; minimum, 62°; precipitation, 1.02 inches.

HAYS:

The past week has been different from those recently reported in that the maximum temperature reached 100° only four times during the week and four showers occurred on as many days. With these showers and more or less cloudiness and lower temperatures, we are hopeful that the drought has been broken, but much more rain is needed and very soon to develop and mature grain on the sorghums that have survived and still

have possibilities. Although the sorghums have improved more or less since the showers, they do not look thrifty. They still have a depressed appearance. The rain is also needed to make favorable conditions for finishing seed-bed preparation for wheat.

During the week the road leading from the highway to the Dry Land project has been surfaced with gravel.

Maximum temperature, 109°; minimum, 67°; precipitation, 0.97 inch.

GARDEN CITY:

The past week has been reasonably moderate. Only four days had a maximum temperature above 100°, the remainder were in the upper scale of the nineties. There was one nice shower. There is some relief in temperatures in the early morning now, especially when there is a slight breeze.

There is some speculation as to whether the recorded moisture was sufficient to reach the seed, thus enabling the dormant seed on the plots to germinate. Crops are still holding on and looking fairly green, even on plots which have a good stand. How long this will last is problematical. Very little growth has been made all summer, as most of the vitality of the plants has been used in keeping alive.

Visitors during the week were: A. C. Hildreth, and Messrs. Emerson and Babb, all of the Cheyenne Station; C. E. Leighty, and E. F. Chilcott.

Maximum temperature, 104°; minimum, 69°; precipitation, 0.40 inch.

TUCUMCARI: (Report for the two weeks ending August 18, 1934.)

Drought and heat continue unchecked, with ranges deteriorating daily and seedlings of crops planted a month ago rolling and dying. Precipitation since the close of last August is 4.39 inches, none being received this month. Watering of trees, spraying orchard and shade trees to kill red spiders, hauling caliche to roadways, and miscellaneous work have consumed the time of station labor.

The mean temperature of 83.5° in July far exceeded all previous months. The means for the past two weeks have been 85.8° and 85.6°, respectively. Evaporation of 14.100 inches in July was second high on record. August evaporation to date has been at the rate of 14.353 inches for the month. These figures indicate that neither the heat wave nor the drought has been broken in this immediate vicinity.

In a 600-mile trip over northeastern New Mexico a week ago it was found that drought conditions generally were much the same as at Tucumcari, improvement being found only in those sections above about 7,000 feet altitude, with the exception of a few scattered neighborhoods where local showers have enabled isolated fields to produce plants from a foot to knee high.

Unless rain falls in the near future, in time to enable Sudan grass to be planted and make some growth before frost, prospects are that station fields will go into the winter in bare condition.

Maximum temperature, 103°; minimum, 68°; wind velocity, 5.8 miles per hour.

BIG SPRING:

Just a little more of what this section has been experiencing for the past several weeks covers the weather situation for the past week. Broken clouds have gathered on several occasions, but they pass on without changing the moisture conditions.

Kafir and milo in the rotations are starting to head but they can not get far under present conditions; some of the milo plots are burning badly even before they start heading. Cowpeas have only made about half their normal growth, but it will be necessary to harvest them in the near future, as the leaves are starting to fall. Cotton throughout this section is opening rapidly now. This dry weather cotton with its small bolls and short staple is opening from two to three weeks earlier than normal.

Station work has consisted of watering trees, cleaning feed lots, and hoeing weeds.

Maximum temperature, 101°; minimum, 74°; precipitation, none.

WOODWARD:

The weather has continued hot and dry throughout the week. Maximum temperatures for the past 56 days have averaged 103.3°, with only 0.38 inch precipitation during the period. Many large trees and shrubs are beginning to show effects of the drought for the first time. Late planted sorghums are still green and in growing condition, but there is little likelihood of maturing much grain at this late date. Owing to the extreme dryness of the soil, very small acreage has been prepared for fall wheat planting.

Station work for the week consisted of mowing and raking weeds, spraying orchard, picking fruit, cultivating nursery, leveling lister ridges for wheat, and digging Johnson grass.

A. C. Hildreth, J. Emerson, and M. F. Babb, of the Field Station, Cheyenne, Wyoming, and C. W. Riggs, nurseryman of Kingman, Kansas, were station visitors during the week.

Maximum temperature, 109°; minimum, 69°; precipitation, 0.10 inch.

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REPORT FOR THE WEEK ENDING AUGUST 25, 1934.

JUDITH BASIN: (Report for the two weeks ending August 25, 1934.)

The weather has turned decidedly cooler the past week with a light frost August 23. At the station only the tips of the upper leaves of the most tender plants were injured. Field work for the season is rapidly approaching completion. The harvesting of corn and potatoes and the seeding of winter wheat are about the only jobs remaining to be done. Corn is holding up well and will produce a good quantity of feed. Northwestern dent, the seed of which was grown in North Dakota, shows much more drought injury than other varieties. A strain of Brown County Dent developed in Rosebud County looks very good this year and will produce a good yield of grain.

Most of the fall plowing on the rotations has been finished. The soil was dry and hard, and all plots are in a very rough condition which should help control soil drifting.

Maximum temperature, 92°; minimum, 31°; precipitation, 0.12 inch.

HUNTLEY:

Light showers on two days during the week were followed by an abrupt drop in temperature that came close to the freezing point in some localities. No injury to crops has been observed or reported in the vicinity of the station as a result of frost. Sorgo and Sudan grass, the only crops not yet harvested, appear to have been benefited by the cooler and cloudy weather of the last few days. These crops have now reached a height that would permit their being harvested with a corn binder and will yield a fair amount of forage.

Fall plowing was discontinued for three days during the week while the teams and men were engaged in putting up silage but is again under way to-day, August 25. Unless rain is received before planting time, the seed beds for fall grains promise to be very rough and dry on plots where it has been necessary to do any plowing since June.

Maximum temperature, 85°; minimum, 38°; precipitation, 0.07 inch.

SHERIDAN:

The week was very dry, but the temperatures were much more normal than previous weeks. No moisture fell during the week and to date we have 0.08 inch precipitation for the month. All the corn in the rotation has been cut but the F plot of the M C's. Some of the sorghum which has fired has been cut. Hogs were weighed and 12 were ready for market. Some sorgo seed is being picked from the bulk fields or seed blocks, the ripening is uneven due to different dates of emergence.

Maximum temperature, 87°; minimum, 37°; precipitation, none.

DICKINSON:

Drought continued to become more intense, though there is little left of the season's crop to show its effect. Lower temperatures made the country more endurable for living. A minimum temperature of 30° on the night of the 24th damaged gardens and corn in low situations. A hard freeze on May 23 damaged fruit then in bloom. On July 6 a minimum of 33° was recorded, but heavy frost occurred in some locations in the district and considerable damage resulted then. The frost free period of 103 days is the shortest since 1917.

Corn on the rotations, except the continuously cropped and fallow plots, was cut on August 20 with the grain binder. The plots were weighed and the corn was run into the silo on the 24th. Increase corn for silage was cut on the 22nd and put into the silo. All of the corn filled the silo only about one-fourth from an acreage which usually more than fills it. A good many fields of corn in the locality were cut with the mower. On fallow corn has produced a fair yield of fodder and ears are developing, indicating a yield of around 20 bushels to the acre.

Millet varieties were cut although they had mainly dried up and produced a light yield of poor quality hay. Corn, sorgo, and Sudan grass planted in rows after the rains in early June have produced more forage than the millets. Grains seeded in June for hay or pasturage dried up completely without providing either, proso along with the others. Winter wheat and winter rye seeded at that time also dried up without making enough growth to provide any pasturage.

A trip of about 100 miles around the Killdeer Mountains on the 23rd showed very little feed anywhere along the way. Although about half of the cattle have been shipped out, it seems that from the feed in sight most of the balance should also go.

Maximum temperature, 87°; minimum, 30°; precipitation, none.

MANDAN:

Agronomy - The past week has been cool for this time of year. No rain of value fell. A light frost came on the night of the 23rd. The remainder of the corn was cut during the week. There will be no yield of ear corn.

Maximum temperature, 88°; minimum, 33°; precipitation, 0.09 inch.

Cooperative Grazing Experiment - It was necessary to move the 30-acre steers to the reserve pasture at the end of 25 days in August. They showed such a pronounced loss that they could not remain on the pasture until the end of the month. The bromegrass steers were also moved to the small reserve pasture. They were just about holding their own in weight.

Arboriculture - The removal of dead trees and dead limbs from living trees has been carried on during the week. Many of the species testing blocks have only a very few live trees remaining. The conifer nursery and seedling blocks of green ash and hackberry have been irrigated and cultivated afterwards.

Horticulture - The majority of plum and apple varieties were picked the early part of the week. The fruit was below par in quality for most of them, due partly to drought and premature dropping during a high wind on August 18. There was a surprisingly good yield especially of the Florence crabapple variety. Dead wood in the orchards was cut during the week.

Tomatoes in the breeding plot were picked for seed and later washed out. Three selections were outstanding as far as yield and drought resistance were concerned. As much seed from these as could be obtained was secured.

Roads, lawns, and shrubbery groups about the grounds were given a general cleanup during the week, and after the previous week's irrigation seem in pretty good shape.

ARCHER:

During the past week the weather was cool with low hanging clouds until August 24 when the sky cleared, however, the drought continues. Winter wheat and winter rye were seeded August 15 and 16. The seedings were made in moist soil and emergence occurred August 21 with fair stands.

Work at the station consisted of collecting, threshing and cleaning grass seed during the first three days of the week. There remains more threshing and cleaning of grass seed. The remainder of the week was occupied with harvesting corn for silage. The corn crop is short and light, however, by making slight changes in the grain binder a good job of harvesting was accomplished with this machine.

Director W. L. Quayle visited the station August 22.

Maximum temperature, 88°; minimum, 38°; precipitation, 0.04 inch.

AKRON:

There has been an abrupt break downward from the high daily temperatures experienced the past two months.

Myriads of pig weeds emerged on the open ground beaten flat by the heavy rainfall the first of the month, and it has been necessary to work this ground. Rotation plot early fall plowing was completed this week after considerable interference by the rains. Other work was the cultivating of the open land, the cultivating of the orchards, and of the bean experiments. Fanning and grading of the summer's grain crop is about completed. The harvesting and stacking of weeds from the stubble areas and from road lines was continued.

Wayne Austin, recently appointed as Assistant Extension Agronomist in Charge of Seed Registration Service, visited the station August 23.

Maximum temperature, 94°; minimum, 45°; precipitation, none.

NORTH PLATTE:

Unusually cool weather has prevailed during nearly all of the week. Temperatures went above 90° only once. Other maximum records were in the 60-80° range. Chilly nights suggested the possibility of early frost. Sorghum, alfalfa, and pastures have made a succulent growth since the rains, and heavy frost now would do much damage. Rye and millet for pasture and hay have made a good start. Weed seed that had remained in dry soil through the summer is now germinating and the plants are making rapid growth.

Maximum temperature, 96°; minimum, 42°; precipitation, 0.37 inch.

COLBY:

The weather this week was a complete change from what we have been having. It was cloudy, windy, dusty, rainy, and cold. On the 23rd and 24th overcoats were in evidence, and the wearers did not appear uncomfortably warm. Snow was reported in the vicinity north and west of here. To-day, the 25th, is a warm and pleasant day again.

The pastures have greened up in spots as a result of the showers earlier in the month. The sorghums, however, are beginning to wilt and dry again. Even the summer fallow plots will not head much until more moisture falls. The corn plants still remaining are rapidly drying up.

Maximum temperature, 103°; minimum, 44°; precipitation, 0.01 inch.

HAYS:

Except for the first day, the temperatures have been much lower during the past week and three light showers occurred. Crop conditions, however, have changed very little. The shock to the crops by drought has been so severe the showers of rain thus far have not been sufficient to stimulate recovery. The crops, for most part, look about the same as they were two weeks ago.

Field work has consisted of splitting ridges on plots where the method of seed bed preparation for wheat requires it, plowing of some plots that had been disked early, and clipping thistles on plots which are to go through the winter without tillage. By clipping the thistles while green they settle down in the stubble, whereas if they are allowed to continue to grow to a large size they will break off later and roll over the land during the winter. Spare time was used in hauling dirt to fill low places in roads at the ends of the plots to hold the plots level.

Maximum temperature, 109°; minimum, 48°; precipitation, 0.32 inch.

GARDEN CITY:

The past week has been in reverse to the rest of the summer. Temperatures took a sharp drop from above the 100° mark to a minimum of 64° for the 24th. Most of the week was cloudy, but no rain was recorded here. There was a heavy rain about 35 miles northeast of here amounting to about 2 inches, all falling within a very short time. This occurred in the drainage area of the new Finney County Park, where a C.C.C. camp has been constructing a dam for a lake the past few months. The dam was not completed, and the water filled the basin so fast that the temporary dams did not hold and it was rush work to save the main dam. The impounded water is being let out gradually to give room to work in placing rock along the face of the dam. They had to enlarge spillways and do several emergency operations to keep the dam from going out. Several heavy rains have been recorded close to Garden City.

This week all the row crops which had emerged to scattering stands were destroyed by use of the rod weeder. This was for the purpose of making the next crop on more uniform treatment. The only plots left were the alternates on seed-bed kafir where good stands were obtained. This crop has made less than 10 inches growth all summer but is still green.

Station visitors for the week were Messrs. Vinall and Savage, who came here from Hays in the interests of Forage Investigations.

Maximum temperature, 105°; minimum, 52°; precipitation, none.

DALHART: (Report for the two weeks ending August 25, 1934.)

The past two weeks has witnessed a change from the excessive summer temperatures, but the drought remains. A few local showers may give sufficient moisture for early fall pasture with winter wheat and rye, but the production of feed crops from the sorghums is now out of the question. The showers which have fallen have been very local in extent. The few heads of grain sorghums on the station are being badly damaged by birds as fast as the grain forms. With the exception of a few plots, the sorghums have headed very scatteringly. The mature trees in the thicker plantings continue to die. Precipitation for the year to date, 5.50 inches.

TUCUMCARI:

The past week rather general rains have fallen in the Southwest, and temperatures have dropped considerably. Total precipitati on on the station was 0.54 inch, falling on three days, but this and cooler weather revived suffering seedlings temporarily.

During the week caliche was hauled to roadways and to tree rows. Soil samples showed still less moisture than in the previous week.

To-day, August 25, all center field plots were replanted, as were cowpea and bean plots in 2-year rotations, simply to secure some growth on the land. Other plots were not so seriously injured by drought as the center field plots, so partial stands remain. Sudan grass on increase land is being planted where cowpeas and Tepary beans died. Unless additional moisture falls very soon these late planted areas will be bare of vegetation, with danger of serious soil movement early next year.

Visitors included C. E. Leighty and E. F. Chilcott.

Maximum temperature, 100°; minimum, 56°.

BIG SPRING:

There has been a vast improvement in weather conditions and also crop prospects during the past week. The prolonged dry spell was broken on the night of August 22, when the best rain of the entire year was received. This consisted of a slow rain which continued all night and amounted to 1.68 inches; this was followed the next night with another rain of similar character which recorded 1.24 inches. There was no erosion or run-off. This precipitation has changed the station crop prospects, which were pointing towards an almost failure, to those from which fair yields may be expected. With the exception of the early dates of sorghums and cotton, the station crop was planted late and has a fair chance to recover now.

Most of the feed stuff in this county was planted early and was beyond the point where it could be helped. The rains will afford an excellent opportunity to sow wheat for winter pasture. If a good wheat pasture can be obtained, it will be a great relief to the farmers who are facing feed shortage this winter.

Station work during the week has consisted of harvesting cowpeas in the rotations and in an increase field, bagging sorghum heads, and overhauling the thresher.

C. E. Leighty, E. F. Chilcott, and D. R. Burnham were station visitors during the week.

Maximum temperature, 103°; minimum, 62°; precipitation, 2.94 inches.

LAWTON: (Report for the two weeks ending August 25, 1934.)

The record breaking period of heat and drought was broken by rains that very thoroughly covered the State August 23 - 25. The vicinity of Lawton is one of two or three points in the State where the rains were too meager to add much moisture to the soil or relieve the demand for water for domestic use and livestock. Maximum temperatures of 100 - 104° dropped to 73°, and a minimum temperature of 60° was recorded. Skies, overcast with clouds, for a few days added to the relief of distressed vegetation of all kinds. As yet no tillage, necessary for fall seeding, is possible on the station. The total rainfall received at the station, amounting to 0.57 inch, was distributed in four showers.

Cotton picking is quite general over the southwestern part of the State. In general, 30 to 40 acres are required to produce a bale of lint. Nearly all the experimental cotton plots have been picked. The yields range from 4 to 10 pounds per 1/10 acre. The bolls are very small, averaging a little more than 200 bolls per pound. The seed is about

one-half normal size, and the fiber is unusually weak. It is possible that improved weather conditions may substantially aid in the maturity of the few remaining unopened bolls.

Even though the odds are so greatly against the probability of producing feed from sorghums, from now on, farmers are inquiring about such possibilities, and many are planting when seed can be obtained. Early seedings of wheat, barley, and oats for pasturage will be very generally practiced.

The following are records of the 65 days of heat and drought: Period: June 19 to August 22, inclusive, 65 days. Average maximum temperature for the period: 102.4°. Number of days when the maximum temperature equaled or exceeded 100°, 55. Range in maximum temperature: 98 - 108°. Mean temperature for the period: 88°. Rainfall; 0.08 inch. Total evaporation; 29.591 inches. Daily average evaporation: 0.455 inch.

WOODWARD:

Rain and cool weather finally came this week after nine weeks of the driest and hottest weather in the history of the station. Precipitation occurred on four days of the week, totaling 1.81 inches. From June 1 to August 22 the station recorded 53 days on which the maximum temperature reached 100° or more, averaging 104.7°. Maximum temperatures for the entire period of 83 days from June 1 to August 22 averaged 100.7°. During the severe drought period of 68 days from June 16 to August 22 maximum temperature averaged 102° with a total of 0.38 inch precipitation.

Kafir and milo on the station are beginning to respond to the moisture and seem likely to mature grain if weather continues favorable from now to normal frost date. It is doubtful, however, if broomcorn will recover sufficiently from the effects of the drought to mature any brush. A large part of the acreage of rowed sorghums and sowed feed over the country were planted too early to survive the drought sufficiently to mature grain. Many of the farmers have baled their wheat straw for winter feed and are now frantically preparing wheat land for early seeding, hoping to obtain early wheat pasture for livestock.

Station work for the week consisted of picking peaches and grapes, hoeing weeds, drilling sorghum, grading roads, listing wheat plots, and miscellaneous cleaning up of station.

Maximum temperature, 107°; minimum, 52°; precipitation, 1.81 inches.

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